8. (Original) A dynamically re-configurable internal combustion engine as in claim 5 further comprising engine re-generative compression brake mode wherein a computer controls cylinder unit component states to sequence the cylinder unit to drawn air, compress the air using crankshaft to piston power obtained from vehicle inertia, and store it in compressed air storage reservoir for alternate use.

9. (Original) A dynamically re-configurable internal combustion engine as in claim 5 further comprising engine boost power mode wherein a computer controls cylinder unit component states to meter compressed air quantity and to meter fuel quantity into cylinder unit at programmable air-fuel mixture levels for power stroke.

10. (Original) A dynamically re-configurable internal combustion engine as in claim 5 further comprising engine compressed air idle mode for maintaining engine crankshaft rotation through admittance of compressed air into volume expanding cylinder unit in accordance with compressed air idle mode logic and computer program logic execution responsive to engine speed and crankshaft position.

11. (Original) A dynamically re-configurable internal combustion engine as in claim 5 further comprising mixed mode operation wherein one or more cylinder units operate in a mode different from but in concert with, one or more alternate engine cylinder units, by electronically controlling cylinder unit component states in accordance with programmed mode logic responsive to engine speed and crankshaft position.

2. Claim 1 Rejection - 35 USC § 102

Issue: Anticipated by Angermaier (US 5,613,473), hence '473, *Method of Identifying the Stroke Positions in an Internal Combustion Engine* (ICE). While we identify the stroke positions in an ICE, we do not do it in the way taught/claimed in '473, as the engines have different components which are sensed and controlled differently. Additionally, our invention is not the identification of the stroke position as is '473, but the use of such information in re-configuring an ICE dynamically. Angermaier teaches a method for identifying stroke positions of a 1) "a

four-stroke internal combustion engine with an even number of cylinders"; we do not constrain to a four-stroke ICE nor we constrain to an even number of cylinders; 2) synchronizing sequential fuel injection or ignition distribution to the cylinders, as a function of signals of a crankshaft sensor, "wherein pistons of two cylinders each having the same position and direction of motion always form one group"; we do not group cylinders, in fact we claim the cylinder units are operated independently of each other allowing us to reconfigure each cylinder unit without a cylinder bank or cylinder group constraint, a limitation of all cam engines 3) "defining a predetermined engine condition as one at which a starting operation has been ended and the engine is not subject to dynamic rpm changes", we predetermine defined engine conditions while the engine is subject to dynamic rpm changes so that we can reconfigure the engine dynamically", and 4) detecting a combustion that has not occurred if an acceleration value of the crankshaft is less than a predetermined limit value; we do not use predetermined crankshaft acceleration values to determine engine control characteristics. 5) Angermaier is predicated on a fixed firing order and a camshaft ICE, we teach reprogramable firing order to enable dynamically reconfigurablility and do not use a camshaft. 6) Angermaier determines engine conditions based on a camshaft signal, we have neither camshaft nor camshaft signal. Angermair also teaches "because of the crankshaft position alone, the correct cylinder cannot be determined exactly, since at a particular crankshaft position, either cylinder I or cylinder IV should be ignited or supplied with fuel." We can determine cylinder states and timing with crankshaft sensor, electronically controlled valves and programmable control logic and without a camshaft or combustion synchronicity. 7) In contradistinction, Angermair teaches nothing regarding smart, adaptive computer reprogrammable logic which can be programmed to switch dynamically, based on sensor signals. 8) In contradistinction, Angermair teaches nothing about electronically controlled valves, which make it possible not only to actuate them at anytime in the power or other cycle, but also to know when they have last been actuated, easily identifying stroke sequences.

3. Claim 1 Obviousness Rejections - 35 USC § 103

Angermaier, '473, in view of Ahrens (US 4,281,256). Angermaier claims a method of identifying stroke positions once a combustion in a cylinder group has occurred, "not subject to dynamic RPM changes" and coupling cylinder units for synchronicity. We are teaching precisely the opposite, combustion is not necessary, cylinder units must be subject to RPM changes and cylinder units are controlled and act independently, enabling dynamic reconfiguration. Ahrens

teaches an ICE which acts as a compressor, compressing air into an air storage reservoir. However, that compressed air in Ahrens is used to drive a generator through expansion through a High Pressure (HP) and Low Pressure (LP) turbine. The compressor and the expanders are separate and different elements. This is done in Ahrens for the purpose of generating electrical power through turbines. Thus the energy stored from compressed air is used to generate electrical power, we generate mechanical power and from compressed air. We also teach that stored air acts as a source of enriched oxygen, a source for combustive or chemical power. Furthermore, Ahrens uses the stored compressed air for energy storage, but the function and purpose is to generate electrical power, **not** motor propulsion, as used in an electrical hybrid, **nor** enriched mixture for higher power combustion, as used in the instant invention.

Angermaier in view of Ahrens produces an engine that "not subject to dynamic RPM changes" before changing modes, synchronized by coupling 2 cylinder banks, which depend on a combustion signal. We do change modes, which can be subject to RPM changes, do not synchronize by coupling 2 cylinder banks. Discounting the turbine and expander components which make Angenmaier distinguished, to one skilled in the art Angenmaier in view of Ahrens may project an internal combustion engine electrical hybrid with motor/generator. We claim an engine that is a type of Air-Hybrid with designed-in booster power from compressed air produced in previous cylinder strokes.

If any matters can be resolved by telephone, Applicant requests that the Patent and Trademark Office call the Applicant at the telephone number listed below.

Respectfully submitted,

By: _____
Walt Froloff

Walt Froloff
Co-Inventor
273D Searidge Rd
Aptos, CA 95003
(831) 662-0505